



information

Technology Evaluation Panel

In July 1999, the Product Manager for Non-Stockpile Chemical Materiel (PM NSCM) formed an independent Technology Evaluation Panel to evaluate technology alternatives for the safe disposal of chemical agent by-products called neutralents. Neutralents are produced by the destruction of chemical agents in transportable treatment systems designed to dispose of non-stockpile chemical materiel.

The Technology Evaluation Panel consisted of seven professionals from academia and related industry with expertise in biology, chemistry, chemical engineering and mechanical engineering. These panel members also had experience in conducting technology evaluations for government and industry. To ensure that public concerns were addressed, the panel included five citizens who provided valuable public input into the evaluation process. Citizens were selected for their activities in and knowledge of chemical demilitarization issues.

The Panel developed six basic criteria that were used to evaluate each of the 13 proposed technologies. These criteria include:

- efficiency,
- process safety,
- environmental impacts,
- schedule,
- cost, and
- public acceptance.

Scoring factors were established for each evaluation measure. The preceding criteria were instrumental in the evaluation of the 13 technologies that were documented in the report titled *Evaluation*

of Neutralent Post-Treatment Technologies for the Non-Stockpile Chemical Materiel Program, released in September 2000. The report included recommendations for selecting one or more technologies for further testing and/or development. The panel's report recommended further evaluation of the following technologies:

- Catalytic Hydrothermal Conversion Technology
- Gas Phase Chemical Reduction (GPCR)
- Supercritical Water Oxidation (SCWO)
- MGC PLASMOX® Process
- Catalytic Transfer Hydrogenation Technology
- Solvated Electron System and Persulfate Oxidation Technologies

Two of the technologies, GPCR and SCWO, were recommended for further testing and consideration for near-term operation in January 2003. A third near-term technology, PLASMOX®, also was recommended for further testing. Two other technologies recommended for further evaluation require additional development and could be considered for long-term operation in January 2007. PM NSCM will consider these recommendations when making future decisions on the development of technologies for treatment of neutralents produced by the transportable treatment systems.

For more information on the Non-Stockpile Chemical Materiel Project, call (800) 488-0648.

*For more information,
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